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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,537	12/05/2003	Dina Katsir	ACKT 336/8.3	3020

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EXAMINER

ROE, JESSEE RANDALL

ART UNIT	PAPER NUMBER
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1742

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/730,537	Applicant(s) KATSIR ET AL.	
	Examiner Jessee Roe	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 18-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :5 December 2003 & 9 November 2006.

DETAILED ACTION

Status of Claims

Claims 1-17, drawn to a method of preparing an anodized electrode, are currently under examination and claims 18-24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected anodized electrode, there being no allowable generic or linking claim. Election was made in the reply filed on 3 November 2006.

The Applicant's election of claims 1-17 in the reply filed on 3 November 2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP §818.03(a)).

Specification

The specification is objected to because of the following informalities: The parenthese should be deleted from "10 cm ²)" in the third line of [0055]. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naitoh

et al. (US 4,888,666) with evidence from Crawford et al (4,364,995).

In regards to claim 1, Naitoh et al. ('666) disclose a method of preparing an anodized electrode comprising the steps of providing a substrate (col. 2, lines 52-60); coating the substrate with aluminum oxide (col. 2, line 61-col. 3, line 11); winding the substrate into a roll (which would increase the surface area of the coating by way of stretching and surface deformation due to the applied force thereby forming a porous layer) (col. 3, lines 12-35); coating with a semi-conductive layer of lead dioxide over the aluminum oxide coating by thermal decomposition, electrochemical precipitation or chemical precipitation using an organic electrolyte (col. 1, lines 10-28 and col. 3, line 44-col. 4, line 23); and coating this layer with one or more layers of an electro-conductive layer made of silver paste, a copper paste, a nickel paste, an aluminum paste and a carbon paste wherein the copper, nickel, or aluminum would be vacuum deposited (col. 6, lines 42-61). Naitoh et al. ('666) do not specify the method in which the aluminum oxide coating would be applied to the substrate, but rather says that any known method would be sufficient (col. 2, line 61-col. 3, line 11).

Crawford et al. (4,364,995) disclose that vacuum deposition would be a method of depositing aluminum oxide on the surface of aluminum (Example 1).

Therefore, it would be obvious to one of ordinary skill in the art to apply the known vacuum deposition of aluminum oxide on the surface of aluminum as disclosed by Crawford et al. ('995) when applying the aluminum oxide to the surface of aluminum, as disclosed by Naitoh et al. ('666), with expected success.

In regards to claim 2, Naitoh et al. ('666) disclose a method of preparing

an anodized electrode wherein an oxidant such as potassium permanganate would be used (col. 4, lines 38-46). Potassium permanganate would increase the pore volume because of its etching capabilities.

In regards to claims 3-4, Naitoh et al. ('666) disclose a method of preparing an anodized electrode wherein the substrate would be an electrically conductive substrate such as aluminum foil (col. 2, lines 52-60).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Naitoh et al. (US 4,888,666) with evidence from Crawford et al. (US 4,364,995) in view of MacFarlane et al. (US 4,942,501).

In regards to claim 5, Naitoh et al. ('666) discloses a method of preparing an anodized electrode but Naitoh et al. ('666) does not specify annealing a coated aluminum foil.

MacFarlane et al. ('501) discloses annealing and etching a coated aluminum foil (col. 4, line 15 – col. 5, line 30). Annealing and etching would maximize the surface area (col. 5, lines 1-30).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to anneal the surface of a coated aluminum foil, as disclosed by MacFarlane et al. ('501), between the steps of anodizing (and applying layers), as disclosed by Naitoh et al. ('666), in order to maximize the surface area of a coated aluminum foil, as disclosed by MacFarlane et al. (col. 5, lines 1-30).

Claims 6-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over

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Naitoh et al. (US 4,888,666) with evidence from Crawford et al (4,364,995) in view of MacFarlane et al. (4,942,501) and further in view of Harrington et al. (US 6,475,368).

In regards to claims 6-7 and 11, Naitoh et al. ('666) in view of MacFarlane et al. ('501) disclose a method of preparing an anodized electrode as shown above wherein the one valve metal comprises aluminum (col. 2, lines 52-60); oxidizing the surface using an electrolyte wherein the electrolyte comprises an organic acid (col. 1, lines 10-28); and having at least one layer wherein the layer comprises aluminum oxide (col. 6, lines 43-54). However, Naitoh et al. ('666) do not specify that the organic acid would be a saturated dicarboxylic acid.

Harrington et al. ('368) disclose immersing an aluminum substrate in a saturated dicarboxylic acid salt solutions such as ammonium sebacate then rinsing with distilled or deionized water (col. 6, lines 52-65, col. 7, lines 7-11, and col. 7, lines 35-45). Applying saturated acid salt solutions such as ammonium sebacate and then rinsing with distilled or deionized water would greatly enhance the hydration resistance. (col. 7, lines 35-45).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of preparing an anodized electrode, as disclosed by Naitoh et al. ('666) in view of MacFarlane et al. ('501), by immersing an aluminum substrate in saturated dicarboxylic acid salt solutions such as ammonium sebacate then rinsing with distilled or deionized water, as disclosed by Harrington et al. ('368), in order to enhance the hydration resistance, as disclosed by Harrington et al. (col. 7, lines 35-45).

In regards to claims 8 and 12, the Examiner asserts that Naitoh et al. ('666) in

view of MacFarlane et al. ('501) and further in view of Harrington et al. ('368) would anneal between the forming of the two anodized layers. See the rejection of claim 5 above.

In regards to claims 9-10 and 13-14, Naitoh et al. ('666) discloses using chromic acid (col. 4, lines 38-54).

Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naitoh et al. (US 4,888,666) with evidence from Crawford et al (4,364,995).in view of Harrington et al. (US 6,475,368).

In regards to claim 15, Naitoh et al. ('666) disclose a method of preparing an anodized electrode comprising the steps of providing an electrically conductive substrate such as aluminum foil (col. 2, lines 52-60); coating the substrate with aluminum oxide (col. 2, line 61-col. 3, line 11); winding the substrate into a roll (which would increase the surface area of the coating by way of stretching and surface deformation due to the applied force thereby forming a porous layer) (col. 3, lines 12-35); coating with a semi-conductive layer of lead dioxide over the aluminum oxide coating by thermal decomposition, electrochemical precipitation or chemical precipitation using an organic electrolyte (col. 1, lines 10-28 and col. 3, line 44-col. 4, line 23); and coating this layer with one or more layers of an electro-conductive layer made of silver paste, a copper paste, a nickel paste, an aluminum paste and a carbon paste wherein the copper, nickel, or aluminum would be vacuum deposited (col. 6, lines 42-61). Naitoh et al. ('666) do not specify the method in which the aluminum oxide coating would be applied to the substrate, but rather says that any known method

would be sufficient (col. 2, line 61-col. 3, line 11).

Crawford et al. (4,364,995) disclose that vacuum deposition would be a method of depositing aluminum oxide on the surface of aluminum (Example 1).

Therefore, it would be obvious to one of ordinary skill in the art to apply the known vacuum deposition of aluminum oxide on the surface of aluminum as disclosed by Crawford et al. ('995) when applying the aluminum oxide to the surface of aluminum, as disclosed by Naitoh et al. ('666), with expected success.

Naitoh et al. ('666) disclose a method of preparing an anodized electrode as shown above wherein the one valve metal comprises aluminum (col. 2, lines 52-60); oxidizing the surface using an electrolyte wherein the electrolyte comprises an organic acid (col. 1, lines 10-28); and having at least one layer wherein the layer comprises aluminum oxide (col. 6, lines 43-54). However, Naitoh et al. ('666) do not specify that the organic acid would be a saturated dicarboxylic acid.

Harrington et al. ('368) disclose immersing an aluminum substrate in a saturated dicarboxylic acid salt solutions such as ammonium sebacate then rinsing with distilled or deionized water (col. 6, lines 52-65, col. 7, lines 7-11, and col. 7, lines 35-45). Applying saturated acid salt solutions such as ammonium sebacate and then rinsing with distilled or deionized water would greatly enhance the hydration resistance. (col. 7, lines 35-45).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of preparing an anodized electrode, as disclosed by Naitoh et al. ('666), by immersing an aluminum substrate in saturated dicarboxylic acid salt solutions such as ammonium sebacate then rinsing with distilled or

deionized water, as disclosed by Harrington et al. ('368), in order to enhance the hydration resistance, as disclosed by Harrington et al. (col. 7, lines 35-45).

In regards to claim 16, Naitoh et al. ('666) discloses using chromic acid (col. 4, lines 38-54).

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Naitoh et al. (US 4,888,666) with evidence from Crawford et al (4,364,995) in view of Harrington et al. (US 6,475,368) and further in view of MacFarlane et al. (4,942,501).

In regards to claim 17, Naitoh et al. ('666) in view of Harrington et al. ('368) disclose a method of preparing an anodized electrode as shown above, but Naitoh et al. ('666) in view of Harrington et al. ('368) do not specify annealing a coated aluminum foil.

MacFarlane et al. ('501) discloses annealing and etching a coated aluminum foil (col. 4, line 15 – col. 5, line 30). Annealing and etching would maximize the surface area (col. 5, lines 1-30).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to anneal the surface of a coated aluminum foil, as disclosed by MacFarlane et al. ('501), between the steps of anodizing (and applying layers), as disclosed by Naitoh et al. ('666) in view of Harrington ('368), in order to maximize the surface area of a coated aluminum foil, as disclosed by MacFarlane et al. (col. 5, lines 1-30).

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessee Roe whose telephone number is (571) 272-5938. The examiner can normally be reached on Monday-Friday 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JR


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